AMENDMENT TO THE CLAIMS

1. (Currently Amended) A method of producing an optical fiber having air holes extending in the axial direction of the fiber, the method comprising:

a first step of preparing an optical fiber preform having through holes to be formed into the air holes;

a second step of drawing the optical fiber preform in a drawing furnace to form an optical fiber having the air holes under conditions where an oxygen gas is present in the through holes; and

a third step of heating the optical fiber to a temperature in the range of 900°C to 1300°C in an additional heating furnace provided downstream of the drawing furnace such that Rayleigh scattering of guided light at the interfaces of the air holes is suppressed.

2. (Original) A method of producing an optical fiber according to claim 1, wherein in the third step, the optical fiber is heated to a temperature in the range of 900°C to 1300°C for 0.1 second or more.

3. (Original) A method of producing an optical fiber according to claim 1, wherein in the third step, the optical fiber is heated to a temperature in the range of 900°C to 1300°C, the temperature being higher than the minimum temperature of the optical fiber located between the drawing furnace and the additional heating furnace.

4. (Original) The method of producing an optical fiber according to claim 3 wherein the additional heating furnace is disposed apart from the drawing furnace so as to air-cool the optical fiber between the additional heating furnace and the drawing furnace.

5. (Original) The method of producing an optical fiber according to claim 1, wherein the atmospheric gas in the drawing furnace contains a helium gas.

6. (Original) The method of producing an optical fiber according to claim 1, wherein the atmospheric gas in the additional heating furnace contains a nitrogen gas.

7. (Cancelled)

8. (Original) The method of producing an optical fiber according to claim 1, wherein in the second step, the optical fiber preform is drawn by heating at a temperature of 1950°C or less in the drawing furnace.